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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,445	09/30/2003	Jang-Keun Oh	CU-3334 VE	5619

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EXAMINER	
GUIDOTTI, LAURA COLE	
ART UNIT	**PAPER NUMBER**
1744	

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,445	OH ET AL.	
	Examiner	Art Unit	
	Laura C. Guidotti	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-11* is/are rejected.

7)☒ Claim(s) *5 and 6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *304, 1205, 704, 105, 1005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. It is noted that in the Information Disclosure Statement of 24 October 2005, that the citation WO 9735509 has a line drawn through it as this document is has been previously considered on a prior Information Disclosure Statement of 26 July 2004.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 25 (Figure 7). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 7-8, and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by anticipated by Oh et al., US 2002/0088078.

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Oh et al. disclose the claimed invention including a main body (1), a flexible hose assembly extending from the main body (3), an operation handle (unlabeled, shown in Figure 2 as the element between the flexible hose 3 and an extension pipe 2) connected by one end to the flexible hose assembly (Figure 2), and the other end to an extension pipe (2) to be joined with a brush (5) which is in contact with an area to be cleaned (paragraph 32), a cyclone dust collector (20, 30) disposed between the main body and the operation handle to collect dust (as shown in Figure 2 the cyclone dust collector 20 is disposed between the main body 1 and the operation handle), and a brush (5) connected to the operation handle (via 2) draws in dust on the area to be cleaned (paragraph 32). Regarding claims 4 and 8, the device further comprises a

cyclone body (20, paragraph 23) comprising an air inlet fluidly communicating with the operation handle (25) and an air outlet fluidly communicating with the main body (22), a dust receptacle (30) removably connected to the cyclone by a locking unit (as flanges in 37 and 30 appear to interlock together as shown in Figure 4, paragraph 29), a first upstream prevention member integrally formed with the dust receptacle (the uppermost walls of 30 that partially covers the open space within 30), a dust separation grill which is downwardly extending from the air outlet in the cyclone body (24) having a plurality of fine holes in the surface thereof (paragraph 27), and a second upstream prevention member formed at the lower part of the dust separation grill removed from the air outlet (the lowermost portion of 24 that extends outwardly from 24 as shown in Figure 4). Regarding claim 7, there is again a main body (1), a flexible hose assembly (3) at one end to be connected to an extending from the main body (via cyclone dust collector 20 as shown in Figure 2), an operation handle connected to the main body at another end of the flexible hose assembly (unlabeled, shown in Figure 2 as the element between the flexible hose 3 and an extension pipe 2), the operation handle connected to an extension pipe (2), a cyclone dust collector (20, 30) connected to the flexible hose assembly and the main body (as shown in Figure 2), and a brush connected to the operation handle (5, via 2). Regarding claims 10 and 11, the air inlet of the cyclone dust collector (25) is oriented in a non-coaxial direction relative to the air outlet (22; see Figure 4) wherein the air path between the air inlet and the air outlet is skewed (as shown in Figure 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al., US 6,766,558 in view of Brown et al., US 3,226,758.

Matsumoto et al. disclose the claimed invention including a main body (1), a flexible hose assembly extending from the main body (2), an operation handle (10a) connected by one end to the flexible hose assembly (via 10, see Figure 1 or Figures 23-24), and the other end to an extension pipe (3) to be joined with a suction port body (4) which is in contact with an area to be cleaned (Figure 1; Column 5 Lines 21-24), a cyclone dust collector (5) disposed between the main body and the operation handle to collect dust (as shown in Figures 23-24 the cyclone dust collector 5 is disposed between the main body and the operation handle via 10 and 10b, also Column 9 Lines

62-67). Regarding claim 2, the cyclone dust collector is disposed between the operation handle and the flexible hose assembly (Figures 23-24, the dust collector 5 is between the operation handle 10a and the flexible hose assembly 2, that is connected to 10, 10b and as shown in Figure 1). Regarding claim 7, the cyclone dust collector (5) is connected to the flexible hose assembly and the main body (connected fluidly via 10 and 10b, see Figures 1, 23-24). Matsumoto et al. does not disclose that the vacuum cleaner includes the brush connected to an operating handle, but the suction port body (4) is connected to the operating handle (10a) via the extension pipe (3).

Brown et al. teaches a vacuum cleaner that has a suction body nozzle (10) that additionally includes a brush (26) in order to agitate the surface to be cleaned where there is also suction present in order to thoroughly clean rugs and hard surfaces (Column 3 Lines 4-14).

It would have been obvious for one of ordinary skill in the art to modify the suction port of Matsumoto et al. to further include a brush, as Brown et al. teach, to additionally agitate a surface that is being cleaned by suction in order to more thoroughly clean rugs or hard surfaces.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al., US 6,766,558 and Brown et al., US 3,226,758 as applied to claim 1, in view of Igarashi, JP 03-000030 (see translation of Abstract in English).

Matsumoto et al. and Brown et al. disclose all elements above, however do not disclose that the flexible hose assembly comprises a first flexible hose to be connected

to the operation handle and a second flexible hose to be connected to the main body, and the cyclone dust collector is disposed between the first and second flexible hoses.

Igarashi teaches vacuum cleaning device having a flexible hose assembly that comprises a first flexible hose (21) to be connected to an operation handle (30) and a second flexible hose (13) to be connected to the main body (12), and a cyclone dust collector (14) is disposed between the first and second flexible hoses (as shown in Figures 1-3, 5-6, and 10-11). Although the cyclone dust collector is mounted to a turntable, the flexible hoses allow a smooth change in position between a suction nozzle (23) and pipe (22), the collector (14), and the main body (12) and further allows the suction nozzle to be moved in a wide range of positions due to its flexibility (see Figures 1-3, 5-6, and 10-11; Abstract).

It would have been obvious for one of ordinary skill in the art to modify Matsumoto et al. and Brown et al. so that the flexible hose assembly comprises a first flexible hose to be connected to the operation handle and a second flexible hose to be connected to the main body, and the cyclone dust collector is disposed between the first and second flexible hoses, as Igarashi teaches, so as to allow a greater range of positions that the handle and suction nozzle can be positioned or arranged in while cleaning.

6. Claims 4 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al., US 6,766,558 and Brown et al., US 3,226,758 as applied to claims 1 and 7 respectively, in view of Yung, US 6,269,518.

Matsumoto et al. and Brown et al. disclose all elements mentioned above. Regarding claims 4 and 8, Matsumoto et al. further includes a cyclone body comprising an air inlet (5a) fluidly connecting with the operation handle (via 5a, Column 5 Lines 34-36), fluidly communicating with the flexible hose assembly (via 5a, 10, 10b), and an air outlet fluidly communicating with the main body (via 5b, 10b, Column 5 Lines 36-41, Column 7 Lines 44-54, Column 9 Lines 59-67), the cyclone body capable of generating an air whirlpool current with respect to the air flowing in the cyclone body (Column 6 Lines 4-8), a dust receptacle (8) removably connected to the cyclone body by a locking unit (as shown in Figures 16-18, Column 7 Line 66 to Column 8 Line 11), a first upstream prevention member integrally formed with the dust receptacle (9 and/or 11; Column 6 Lines 32-40), a dust separation grill which is downwardly extending from the air outlet in the cyclone body (5b, 10b; Column 6 Line 65 to Column 7 Line 6) having a plurality of fine holes in a surface thereof (Column 7 Lines 4-6). Regarding claim 9, the air inlet of the cyclone dust collector (5a) is oriented in a coaxial direction relative to the air outlet (as Figure 24 has the unlabeled air inlet as extending along a horizontal axis and also shows the air outlet 10b as being along a horizontal axis as well, 5a and 10b may not be considered to be "coaxial" but they are in a relative "coaxial direction"). Regarding claims 10-11, the air inlet of the cyclone dust collector (5a) is oriented in a non-coaxial direction relative to the air outlet (as shown in Figure 23) and the air path between the air inlet and the air outlet is skewed (as shown in Figure 23). Matsumoto et al. and Brown et al. do not disclose that the cyclone dust collector includes a second

upstream prevention member formed at the lower part of the dust separation grill removed from the air outlet.

Yung teaches a cyclone body (16) for generating an air whirlpool current (see directional arrows, Figure 5) comprising an air inlet fluidly communicating with the operation handle (46) and an air outlet fluidly communicating with a main body (see directional arrows in Figure 5), a dust separation grill (34) which is downwardly extending from an air outlet (Figure 5), having a plurality of fine holes in a surface thereof (56), and a (second) upstream prevention member formed at the lower part of the dust separation grill removed from the air outlet (70) in order to narrow an open annulus (72) so that the dust-laden air reverses in velocity the dirt within the air stream falls out and collects in the bottom (Column 4 Lines 12-23 and Column 5 Lines 26-45).

It would have been obvious for one of ordinary skill in the art to modify the dust separation grill of the cyclone dust collector of Matsumoto et al. and Brown et al. to further include a second upstream prevention member, as Yung teaches, in order to narrow the open annulus space around the dust separation grill in order to circulate the air in such a way to promote dirt and debris to fall to the bottom of the dust collector while clean air circulates through the outlet.

Allowable Subject Matter

7. Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art made of record includes a main body, a flexible hose assembly extending from the main body, an operation handle connected by one end to the flexible hose assembly, and the other end to an extension pipe to be joined with a brush which is in contact with an area to be cleaned, a cyclone dust collector disposed between the main body and the operation handle to collect dust, and a brush connected to the operation handle draws in dust on the area to be cleaned, a cyclone body comprising an air inlet fluidly communicating with the operation handle and an air outlet fluidly communicating with the main body, a dust receptacle removably connected to the cyclone by a locking unit, a first upstream prevention member integrally formed with the dust receptacle, a dust separation grill which is downwardly extending from the air outlet in the cyclone body having a plurality of fine holes in the surface thereof, and a second upstream prevention member formed at the lower part of the dust separation grill removed from the air outlet, and a hinge projection formed on the operation handle and a hinge hole formed in the dust receptacle corresponding to the hinge projection.

It is noted that US 6,766,558 to Matsumoto et al. includes all elements previously mentioned above in paragraphs 4-6, and further includes a hinge-like device formed on the dust receptacle to hinge the dust receptacle from the remained of the cyclone dust collector structure (Figure 18; Column 8 Lines 4-11). This "hinging" connection however does not include a hinge or any type of connecting portion formed *on the operation handle* (10a). Similar to Matsumoto et al., US 6,406,505 to Oh et al. also teaches a

hinge structure formed on the dust receptacle to empty the contents of the cyclone dust collector (14, 15).

Also, US 6,195,835 to Song et al. shows a removable dust receptacle that is attached to the operation handle by a supporting clamp element that is a fixing ring (32), however the structure that is used to "hinge" or remove the dust receptacle (40, 43) is actually not connected or formed on the operation handle.

WO 97/35509 to Meijer, which is cited by the Applicant, includes a hinging dust receptacle (41) that is connected by a hinging element (see Figure 3) the operation handle (29). Meijer is not a cyclone vacuum cleaner and does not include a cyclone dust collector.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura C Guidotti
Patent Examiner
Art Unit 1744

lcg